REMARKS

Reconsideration of this application is respectfully requested.

Claims 1-7 stand rejected in this application under 35 U.S.C. 102 as being unpatentable over Freeman (US Patent No. 6,249,775).

The claims have been amended to more explicitly recite a number of distinguishing features of the Applicant's system, namely the following:

1.   the Applicant's system facilitates valuation of credit instruments (e.g., such as loans), according to no-arbitrage financial principles (see e.g. comparison to other systems at paragraph [0008] of the application as filed);

2.   the valuation of a credit instrument, such as a loan, comprises deriving at least one of (a) a net present value and (b) a par spread for the credit instrument (see e.g. paragraphs [0087] to [0132], and in particular, paragraphs [0127] to [0132] of the application as filed);

3.   the valuation of a credit instrument (e.g., such as a loan), by deriving at least one of a net present value or par spread for the credit instrument, is performed using current market data (see e.g. paragraphs [0023] to [0132], and in particular, paragraphs [0024], [0034]-[0037], [0091] to [0093], and [0127] of the application as filed); and

4.   simulation-based calculations are performed in which a plurality of scenarios are applied to market data to generate a plurality of valuation and exposure measures (see e.g. paragraphs [0022], [0026] to [0028], and [0133] to [0149] of the application as filed).

Claims 5 and 7 have been amended to depend on claim 1, and a number of terms of claims 2, 5 and 7 have been amended to be consistent with those in claim 1 as amended. These amendments are not related to any requirement for patentability of claims 2, 5, and 7. New claims 8 to 11 have also been added to further recite some of the features described at paragraphs [0127] to [0132]. No new matter has been added.

Applicant's system is generally directed to a system that addresses the issue of pricing and valuation of complex credit instruments, such as loans, in a systematic way. The Applicant's system facilitates the determination of a value (i.e., "fair" price) for one or more credit instruments, such as a pool of loans, for example. As noted at paragraphs [0007] to [0009] of the application as filed, prior art systems, including that described in Freeman, work in a different way.

In this regard, embodiments of the Applicant's system are distinguishable from the system and methodology taught in Freeman for several reasons.

As recited in amended claim 1, embodiments of the Applicant's system are directed to a system where credit instruments such as loans are valued according to no-arbitrage financial principles. As will be understood by persons skilled in the art, this means that the calculated value of a credit instrument such as a loan will be consistent with the values of other traded instruments in the market (e.g. bonds, credit derivatives). Freeman neither teaches nor suggests a system or method for valuing loans, and accordingly, is not directed to a no-arbitrage-based system.

Further, Applicant's claimed pricing engine values the credit instruments. As one of ordinary skill in the field understands, even a high-risk loan may have a substantial value, if the rate of return is high enough. In Freeman, however, no discussion or mention of the "value" of the pools of loans is made. In Freeman, the determination of whether a pool of loans should be bought or sold is based on potential future default rates. Freeman's decision is based on risk, not value. There is no suggestion in Freeman, for example, that the decision to buy or sell a particular pool of loans might be influenced by a change in the price offered to pay for it. As Freeman is not directed to a system for valuing loans, the system in Freeman is incapable of considering, for example, whether a bank may wish to purchase a pool of loans that has a high default likelihood when the price is sufficiently "cheap", or conversely, whether a bank may wish to sell a star portfolio for a sufficiently high price.

None of the foregoing features are disclosed or suggested by Freeman. Accordingly, and in view of the additional remarks below, it is respectfully submitted that the claims define patentable subject matter, and withdrawal of the Examiner's rejection is requested.

Freeman neither discloses valuation as claimed by Applicants. As Freeman suggests, banks will initiate loans to clients from which they hope to receive interest and servicing fees. These loans will be segmented by such things as geographic region, year vintage, and credit quality, for example. It is quite common for banks to try to "package" or "bundle" loans together, once the loans have been initiated, and sell them to other banks and financial institutions. The reasons for doing this are varied and are described in Freeman (e.g. they want to free up capital to initiate more profitable loans, they do not like the credit outlook of these loans anymore). Similarly, banks may purchase bundled loans from other financial institutions (see Freeman, col. 1 line 5 – col. 2 line 42).

Freeman describes a methodology that may be used to facilitate buy and sell decisions regarding such bundles of loans. He suggests a 3-pronged approach.

First, Freeman teaches that it is appropriate to compare the historical performance of various annual vintages of loans in terms of their default rates and suggests the use of "Crus Classes", which can be considered as a diagonal slide scale in comparing performances of different vintages. This allows hypothesis testing to be employed to determine whether a certain vintage is "superior" from a statistical standpoint in terms of its lower default rates. It is suggested that this would allow banks to determine which yearly pools of loans are "better" than others, namely, which pools experienced lower defaults (see e.g. Freeman, col. 2 lines 54-56, col. 3 lines 22-42, col. 6 line 33 to col. 7 line 30).

As recited in amended claim 1, current market data is used to derive the net present value or par-spread for each credit instrument. Current market data may comprise, for example, current interest rates, spread rates, default probabilities, and transition matrices. A calibration

engine is employed to calibrate the input parameters to current market levels. Freeman neither teaches nor suggests a system or method that considers current market data, and accordingly, Freeman does not disclose the use of a calibration engine.

Freeman describes an "Early Warning System" ("EWS") that is used to aid in the understanding of what might happen to default rates in the loan pools going forward, essentially by extrapolating past default behavior into the future. More specifically, Freeman uses past default data in each of his Crus Classes and runs a regression on those default rates relative to other factors that he describes as "current loan characteristics". Based on the results of the regression model, he is able to place a probability on a group of loans entering the "bad" state (i.e. default) within a pre-set time period (e.g. 1 year). Presumably, this allows banks to determine which loan pools they would like to keep and which they can do without (see e.g. Freeman, col. 3 lines 42-50, col. 13 line 32 to col. 16 line 55).

Freeman's EWS model is refined to model loan transitions in shorter time periods (e.g. 3 months). Again, based on historical data in the Crus Classes, Freeman is able to extract what the likelihood of loans transitioning in and out of bad states are (see e.g. col. 16 line 56 to col. 18 line 5, and Figure 7 showing an example of such transitions).

In view of the above, it will be clearly understood by persons skilled in the art that Freeman teaches a methodology that is based on the **extrapolation of historical results into the future**. As noted explicitly throughout the description in Freeman, the methodology is based on the premise that past behavior is the key indicator to future behavior. No attempt is made to take into account current market data, to revise expectations going forward.

As further recited in amended claim 1, embodiments of the Applicant's system is also directed to a system where valuation of a credit instrument is performed by a pricing engine, by deriving at least one of a net present value or a par-spread for the credit instrument. Freeman neither teaches nor suggests a system or method for valuing loans, and accordingly, Freeman does not disclose the use of such a pricing engine.

As recited in amended claim 1, an engine for performing simulation-based computations in which scenarios are applied to market data to generate valuation and exposure measures is provided. Freeman neither teaches nor suggests a system or method that employs simulation or the shocking of input variables, and accordingly, Freeman does not disclose the use of a simulation engine. At best, the system in Freeman performs risk management using its EWS system that is based on a regression model, which extrapolates past behavior into the future.
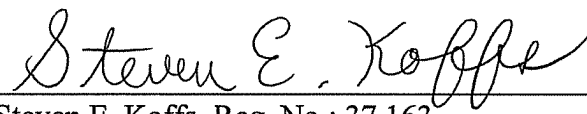
For the foregoing reasons, it is respectfully submitted that the Applicant's amended claims are patentable over the cited references.

In view of the foregoing amendments and remarks, Applicant submits that this application is in condition for allowance. Early notification to that effect is respectfully requested.

The Assistant Commissioner for Patents is hereby authorized to charge any additional fees or credit any excess payment that may be associated with this communication to deposit account **04-1679.**

Respectfully submitted,

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